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The Food Stamp Program

U. S. DEPARTMENT OF AGRICULTURE • AGRICULTURAL MARKETING SERVICE

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Contents

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Cover page

A better filled food basket for needy families is the aim of the Food Stamp Program soon to be inaugurated on a test basis in eight areas of chronic economic distress. The basket on the left represents what needy people have been buying to feed their families; the basket on the right shows the more and better foods that will be available to them under the Stamp Program. It includes more meat, poultry, fruits, vegetables, and dairy products—all the things needed for a good basic diet. Stamp coupons (pictured at lower right) will be issued through local welfare agencies. Recipients will use them as money to buy food at their regular grocery stores.

Editor, MILTON HOFFMAN

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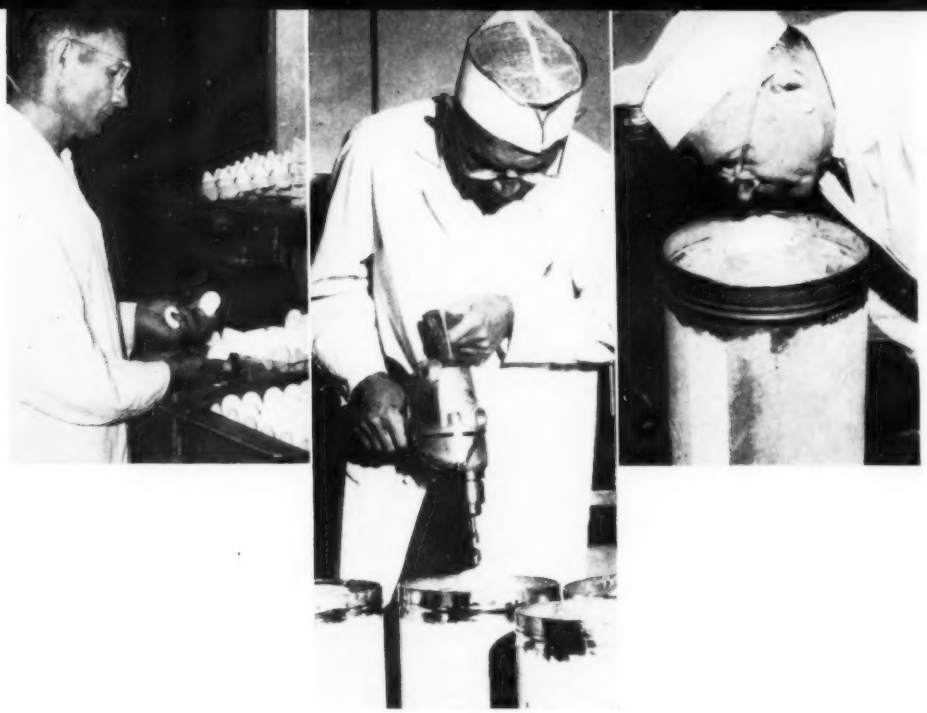


USDA'S EGG PRODUCTS INSPECTION PROGRAM

by GEORGE BANWART

STEPPED-UP Government purchases of dried whole egg solids for distribution to needy persons has focused attention anew on this product.

Like other large-scale users of eggs, Government officials handling welfare programs have found that dried and frozen egg products have certain advantages over shell eggs. They are compact and easy to handle, and they can be held for considerable periods with relatively little deterioration.

The Government, as well as many commercial firms, requires that the egg products it buys be prepared in plants operating under the USDA inspection service.

This service, conducted by the Poultry Division of the Agricultural Marketing Service, certifies that egg products are prepared from wholesome materials and under sanitary conditions.

More than 100 processors now use this inspection service.

To be eligible, a plant must first have equipment, facilities, and operating procedures that meet minimum requirements. A resident inspector is then assigned, and the entire manufacturing and packing process comes under his continuous supervision.

Basic to the inspection program is control of three major aspects of the manufacturing operation: (1) quality of the breaking stock, (2) temperature, and (3) sanitation.

Only eggs suitable for human consumption may be used in producing frozen or dried egg products under USDA supervision. The eggs are candled to remove those that are inedible, and any that are soiled, cracked, or leaking are sorted out. The edible, clean

eggs are sent immediately to the breaking room. Each of these eggs must be broken in a sanitary manner and checked for wholesomeness.

Rigid temperature and sanitation controls are maintained to deter the development of bacteria in the product through all stages of production. Not only are operating procedures and equipment carefully controlled, so are plant contruction, toilet facilities, and the grounds around the plant.

Regular cleaning of equipment is required. To prevent chemical reactions, only certain kinds of cleaning agents may be used and only certain kinds of metals may come into contact with the product.

Only plants operating under the continuous inspection program may have their products identified with the official Government inspection mark. But, the labels on which this mark appears must be approved. They must include the common or usual name of the product, the name and address of the packer or distributor, the lot number, net weight, and a list of ingredients.

An official plant may also request certification of specific factors requested by a purchaser. These might include the percentage of solids, bacterial count, and solubility or palatability scores.

This service enables the plants to bid on and fulfill contracts with the Government and commercial firms which have their own purchase specifications for frozen and dried eggs.

Costs of the continuous inspection program, which is completely voluntary, are borne by the manufacturing plants requesting the service.

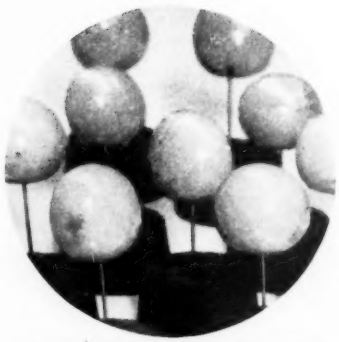
The Poultry Division also offers on a fee basis a laboratory service for egg-processing plants. Lab technicians will make analyses for both chemical and bacteriological factors and will assist plants in maintaining adequate and uniform quality controls.

Dr. Banwart is Head of the Egg Products Section, Poultry Division, AMS.

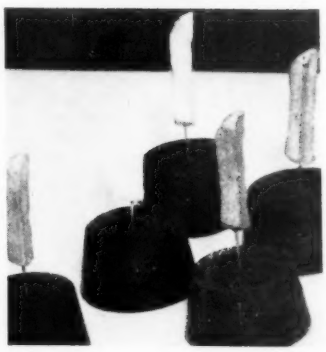
True-to-life strawberries

Shimmering canned apricots

Golden frozen french fries

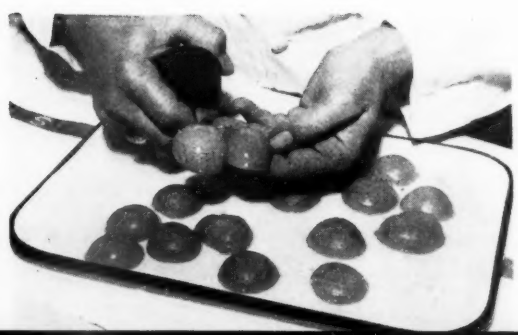


Plastic models show exact color, size, shape of various canned, frozen, dried fruits, vegetables.



VISUAL AIDS HELP PROCESSORS

by FITZHUGH L. SOUTHERLAND



MANY fruit and vegetable processors are now using visual aids to help their products pass their "exams"—that is, grade examination by USDA inspectors.

The visual aids help interpret the written grade standards developed by USDA's Agricultural Marketing Service for various canned, frozen, dried, and dehydrated fruit and vegetable products.

For instance, a model of a strawberry showing the darker limit of "good red color" required for U.S. Grade A gives inspectors all over the country the same standard of "good red color."

The Fruit and Vegetable Division of AMS has developed more than 300 of these visual aids—illustrations, photographs, models showing blemishes, defects, size, shape and color, and plastic and glass color comparators.

The visual aids were originally designed for use by inspectors. But, several years ago, processors began to inquire whether they, too, couldn't get copies of the visual aids to guide them in their quality-control programs.

However, the visual aids are developed in a small lab by two artists, and these facilities are often strained just to produce enough of the aids to supply the inspectors.

The problem was solved in 1958 by changing the USDA regulations so that commercial firms could be licensed to produce approved copies of the visuals for direct sale to anyone who wanted to buy them.

Since this change in the regulations, four firms have developed authorized visual aids—from hand-painted replicas of strawberries to molded plastic plates showing the various colors permitted in different grades of canned and frozen lima beans, and three-dimensional reproductions of sauerkraut.

Processors, of course, do not want all of the visual aids developed for the inspection service. But when they indicate a need for a particular one, AMS tries to get it reproduced. Altogether, 63 of the visual aids are now available for sale to the public by licensed commercial firms.

The first model is always produced by AMS artists. This makes quite a story in itself.

For example, on a set of models designed to show how much blemish is allowable on canned apricots, the artists searched through dozens of cans of apricots for suitable specimens. Then they checked and rechecked the finished models against dozens more photographs and real apricots to be sure the model showed exactly what it was supposed to.

After an original model has been approved, commercial firms interested in producing authorized copies have to find a method of reproducing the visual aid. The copies must be exact mates to the original and also be able to stand up under hard usage at the laboratory. Color comparators, for instance, can't fade under strong light.

Even for a seemingly simple visual aid like a plastic plate illustrating the proper color of canned peaches, the firm must try many different combinations of plastic molding powders to get the exact color needed. Sample chips are checked with the AMS artists and technicians to make sure they're exactly like the original model.

Each set of final visual aids also is submitted for verification. When approved it becomes an officially authorized visual aid of the U. S. Department of Agriculture.

AMS artists are busy creating new visual aids, both for existing standards and for new standards just being developed. Inspectors find them extremely valuable in maintaining uniform grade interpretations. Many processors, too, are finding them valuable as guides in their quality control programs.

The author is Chief, Processed Products Standardization and Inspection Branch, Fruit and Vegetable Division, AMS.

Plastic apricot models, just out of the art shop, are carefully checked against dozens of real apricots to see if the reproductions show exactly what they should.

Molded plastic plates show the various colors permitted in different grades of lima beans.

a young man from GREECE...

comes to the United States to learn how we market fruits and vegetables

IT WAS JUST before Christmas. The fog rolled in thick from the Bay, and the sun had not yet pushed its rosy fingers over the horizon.

While a sleepy city lay abed, the terminal market area of San Francisco groaned and clattered with the sounds of meshing gears, the bumping and grinding of rail cars, and the husky-throated calls of toiling stevedores.

The market area was wide awake. And as warehousemen quickly assembled the food that later would feed the city, a young man from Greece watched with unusual interest.

He was Ioannis T. Hadjikos, an Extension worker from Thessalonika, who was in this country for a year's study of American marketing methods. Anxious to make the most of his opportunities, he was spending his Christmas holidays at the San Francisco market.

Every morning for two weeks, he climbed out of bed long before dawn to watch the fresh fruits and vegetables pour into the market area. Most particularly, he watched the activities of the Federal inspector as he took samples, checked the produce against decay and disease, and then issued certificates of acceptance.

Standards, Hadjikos believes, would greatly aid Greek exports.

"If Greek fruits are going to compete with those of Spain, France, and Italy in the markets of Germany and Scandinavia, we'll have to offer uniformly high-quality products. Strict government standards are the only answer."

But standards in Greece, Hadjikos points out, would be good only for exports. They are not needed for local fresh sales. The important thing here is that the farmer disposes of *all* of his produce as quickly as it's harvested.

Greek farmers don't have enough refrigerated warehouses to store their produce or enough refrigerated rail cars to ship it.

In 1958, and again in 1959, the peach crop was so plentiful and the facilities so scarce that peaches sold 2 pounds for a penny. Some farmers even put signs up beside their orchards offering "free peaches."

Recently, the Greek government bought 300 refrigerated rail cars which they hope to have in operation by the spring of 1962. Storage facilities, however, are still in short supply.

One way to solve this acute marketing problem and make fruits available throughout the year would be to expand processing operations. That's why Hadjikos also spent much of his time in this country visiting processing plants.

"I'm amazed," he said, "that you process every kind of fruit and that there are so many ways to process them—into jams and juice, frozen, concentrated, canned, and dried."

In Greece, drying is about the only method of processing fruit now in use, and Hadjikos was impressed with one California processing plant which, with ultra-modern equipment, dried large quantities of raisins, prunes, peaches, and apricots not only individually but mixed.

He also was impressed with our method of "hydrocooling" fresh produce. This process was something new to Hadjikos. But, although he admired it immensely, he felt it would not be usable in Greece because of its high cost.

Greek farms are small, and each farmer packs and markets his own produce. Hydrocooling for a single producer would be out of the question. And cooperatives are almost as unfeasible because instead of requiring a few large farmers as in the United States nearly 1,000 small Greek farmers would be needed to make up the necessary volume.

The same thing is true of automatic packing lines. Again Hadjikos had many complimentary things to say about them. But, he pointed out, the single farmer with a small output could not make them pay.

Storage is another big problem in Greece. Besides not having enough facilities, the Greeks do not know how to keep their produce for long periods of time. So fresh fruits are never available the year around.

It was this phase of marketing

(continued on page 16)

Special promotional campaign increases sales of

Frozen Concentrated Orange Juice

by PETER L. HENDERSON and SIDNEY E. BROWN

FROZEN orange juice producers reduced excess supplies of frozen concentrate and boosted their income with the help of a nationwide advertising campaign. The special promotional campaign cost about $4 million. But, in the 7-month period (3 months during and 4 months after the promotion), retail sales increased an estimated $18 million or 13 percent over expected sales without promotion.

At the time the campaign got underway, over-abundant stocks threatened to push prices below a reasonable return to growers, processors, and distributors. And signs pointed to another record orange crop.

AMS researchers, with the help of the Florida Citrus Commission, studied the promotional campaign which the industry used.

The campaign itself had several phases. It offered coupons to customers and sponsored dealer-consumer contests. At the same time, the Florida Citrus Commission carried out intensified public relations activities and dealer services.

Advertisements were placed in newspapers and magazines across the country offering coupons—one coupon was worth 12 cents and one worth 20 cents. Customers could redeem the 12-cent coupon at their grocery stores when they purchased orange concentrate. The 20-cent coupon had to be mailed, along with the tops of four 6-ounce juice cans or two 12-ounce cans, to a redemption center.

This advertising campaign attracted many new and occasional users of frozen concentrated orange juice. A half-million more people (an increase of 12 percent) bought the product during the special promotion period than in the previous years.

In addition, the advertising campaign effectively persuaded new customers to carry home 40 percent more frozen orange concentrate than was used by the new and occasional customers of other years.

Advertising also made a successful appeal to another important group of customers — the regular buyers of frozen orange concentrate.

For research purposes, regular customers were divided into three groups: heavy, medium. and light buyers. In the 3-month campaign period, the number of heavy buyers (25 cans or more) increased 30 percent. Medium buyers (7 to 24 cans) increased 9 percent.

The increase in heavy and medium buyers came mainly from the light buyers (1 to 6 cans). The number in this group decreased 16 percent.

Consumer response to the 12-cent coupon was twice as high as had been expected. Seven months after distribution began, 8 percent of the 12-cent coupons had been redeemed. The usual coupon redemption rate is 3 or 4 percent.

Only 1 percent of the 20-cent coupons were redeemed in the same period.

Although, less than 5 percent of the frozen orange concentrate sales was made with the use of the coupons. About 10 percent of the customers used coupons to purchase orange juice. But 3 percent of all concentrate customers accounted for over half of these coupon sales.

Thus, a relatively small number of customers redeemed two or more coupons.

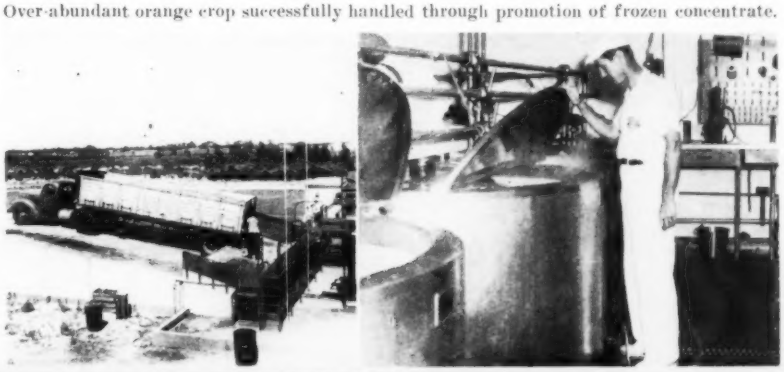
This appears to be the usual practice. AMS researchers observed the same pattern in studies of coupons to promote other products.

The frozen orange juice study answered one important question for the industry: Could a better marketing job have been done with some other method than an advertising campaign? Probably not.

The nearest alternative would have been to lower the retail price of a 6-ounce can of juice by 2 to 3 cents. This, researchers say, would have given the same sales volume as the advertising campaign achieved. But, the price reduction would have caused an $18 million drop in retail income over a 7-month period. It could have wiped out profits altogether and caused losses. It probably would have resulted in lower prices to growers in the new harvesting season.

In contrast, the advertising campaign, with its $4 million outlay accompanied by an increase of $18 million in gross sales revenue, gave a net gain of about $14 million for the 3-month campaign and the 4 months following.

Over-abundant orange crop successfully handled through promotion of frozen concentrate.



The authors are agricultural economists in the Market Development Research Division, AMS.

the FOOD STAMP PROGR

PILOT FOOD STAMP PROGRAM projects, designed to put more and better foods on the tables of needy families, are scheduled to go into effect in June in eight test areas.

The program—a refined version of the 1939-43 food stamp plan—will broaden the diets of welfare families by increasing their buying power.

Instead of receiving donated commodities from the government, low-income people in the test areas will receive coupons with which to buy their own choice of foods at the supermarket.

This should markedly increase their consumption of meat, poultry, fruits, vegetables, and dairy products while at the same time expand the domestic demand for these farm food products.

Such, says Secretary of Agriculture Orville L. Freeman, is the aim of the Food Stamp Program—to create a "positive food and nutrition program for all Americans, which will mean a healthier Nation and more prosperous agriculture."

Improving diets increases farm income

By increasing domestic food consumption, we not only will improve individual diets but also increase farm income and reduce surpluses.

Take feed grains as an example. If the farmer uses his grain to feed livestock (instead of selling it as a low-priced surplus) and if the products from this livestock are within reach of low-income families—everyone stands to gain: The farmer because he is more profitably selling his output, the retailer because he is doing more business, and the consumer because he is getting more nutritious foods.

Trial runs of the Food Stamp Program are scheduled to begin in June. Test areas are Franklin County, Ill.; Floyd County, Ky.; the city of Detroit, Mich.; the Virginia-Hibbing-Nashwauk area of northern Minnesota; Silver Bow County (which includes Butte), Mont.; San Miguel County, N. M.; Fayette County, Pa.; and McDowell County, W. Va.

These localities are all areas of substantial chronic unemployment.

Eligible families will be certified by public welfare agencies. They will be those persons already receiving ing public aid, or low-income families who are in economic need of additional food.

Some food stamp coupons to be purchased

To make sure these families use the stamp coupons to boost their food expenditures and not as a substitute for their usual food money, the government asks that a certain amount of the food stamp coupons be purchased, except if the family does not have any income. The charge will depend upon the income of the family and the amount they would normally be expected to spend for food. The additional stamps that would be provided at no cost would permit the family to buy a more adequate diet.

For example, a family might be charged $40 for its monthly allotment of stamps and receive stamp coupons valued at $60. The family would then use its $60 worth of stamps—to be issued in denominations of 25 cents and one dollar—to buy commercial-brand food at cooperating retail stores.

In this manner, the Stamp Program gives participating families extra buying power for a better diet.

Not all items in the typical retail food store can be purchased with the stamp coupons. They will not be good for the wide variety of nonfood items usually stocked by grocers—soap and other household cleaning aids, light bulbs, and so forth.

Alcoholic beverages and tobacco are out as well as

GRAM

items supplied wholly by import and fishery products. Some other food items also will be excluded—those on which prices are expected to average over 90 percent of parity.

The retailer may deposit the stamp coupons in his bank account or redeem them for cash, at face value, at his regular bank. The bank will be reimbursed by USDA through the Federal Reserve System.

For the pilot projects, an educational and informational program is already underway, so that everyone involved—the welfare agencies, the food trade, banks, and recipients—thoroughly understand the program.

A USDA-wide Food Stamp Plan Development Group has been established to put the pilot projects into operation. Howard P. Davis, Deputy Director of AMS' Food Distribution Division, heads this group.

For many weeks now, there have been numerous working conferences with many agencies which have a vital interest in the pilot projects—the Department of Health, Education, and Welfare, the Department of Labor, the Treasury Department, the Federal Reserve System, and State and local government agencies which will help USDA operate the pilot projects.

The wholesale and retail food industry also have been consulted. So have the banking interests.

To supply information on 'plentiful foods'

In cooperation with State and local agencies, participating families will be supplied with information on "plentiful foods" and with general information on how to make the best use of their stamp purchasing power for the nutritional betterment of their families. (Food consumption surveys show that lack of purchasing power is not the only factor resulting in less-than-adequate diets.)

As many as 300,000 to 350,000 persons may be eligible to participate in the pilot programs in the eight areas, which are spread from the Appalachian range in the eastern part of the country to Montana and New Mexico in the west.

The pilot areas were picked to provide a real working test of the stamp program.

As Secretary Freeman points out, "We want to try out the program in both urban and rural settings, in small, medium, and large communities, among families of varying background, environment, food buying habits, and preferences."

Researchers to check effectiveness of program

From the pilot studies, the Department hopes to learn how effective the program is in improving diets and expanding markets. The Market Development Research Division of the Economic Research Service will conduct a series of interviews to establish "before and after" food consumption and sales patterns. Researchers will conduct home interviews, check store sales by departments, and study the attitudes and opinions of the recipients, banks, and retail trade.

When the Food Stamp Program goes into effect in the test areas, it will replace the government's Direct Distribution Program. The transfer, however, will occur without interruption in supplies of additional food assistance to needy families.

It is estimated that when all eight pilot projects are in operation, the cost of the Food Stamp Program to the Federal Government will range from $3 to $4 million a month. Funds are available under Section 32 of the Act of August 24, 1935, which provides money for the general purpose of expanding domestic and foreign markets for agricultural commodities.

Processors credit best-balanced pack they've ever had to Market News Service's new . . .

Great Lakes Red Tart Cherry Report

by FRED S. NIGHTINGALE

At the close of the 1960 season, processors of red tart cherries in the 5-State Great Lakes area had the best-balanced pack ever.

When they added up the needs of their customers and checked them out against the finished pack, they found that they had made the right balance between canned and frozen cherries. On top of this, they had packed the cherries in the right size containers to supply their customer's needs.

The processors, and growers too, give a lot of the credit for this good balance to the Federal-State Market News Service's new Great Lakes Red Tart Cherry Report.

Balance hasn't always been good in the tart cherry deal. It's a short but heavy season, with practically the whole crop going to processing plants.

Processors work at full speed for 7 or 8 weeks in a deluge of brilliant-red cherries and then, suddenly, the season is over. They often find themselves with an overpack of one item or another at the end of the hectic two months. This carryover eventually hurts next year's crop prices.

In this marketing situation, cherry growers and processors in Michigan saw the need for current information on the volume of cherries growers delivered to processors, the amounts they packed, plus details on the type of pack. Furthermore, they wanted this information available throughout the season on a regular and a continuous basis. This was the only way it could be of real value to everyone concerned.

The Market News Service was already reporting deliveries of raw products to processing plants for some processing crops — notably strawberries, and some cranberries— both in Michigan and in other States as well. But not for tart cherries.

The AMS Fruit and Vegetable Market News Service, in cooperation with the Michigan State Department of Agriculture, set out to see what could be done to supply this type of report. When they approached Michigan processors, the response was most favorable. They were anxious to provide the information needed.

So, in 1959, the Market News Service added a weekly report on the volume of cherries packed out by processors — broken down by type of pack (canned, frozen, or brined) with a further breakdown of canned cherries as to size of containers used (consumer or institutional).

Michigan's cherry industry welcomed the new report. Then, as word spread, cherry growers and processors in neighboring States showed interest in the Michigan report — and in the possibility of getting something like it on a broader geographical scale.

"This report," one Michigan processor stated, "can become the best market stabilization tool the cherry industry has."

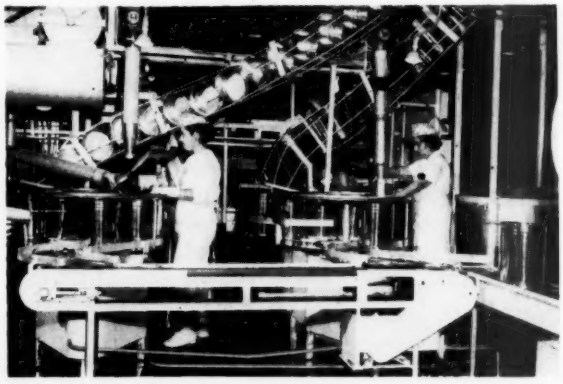
Backing up this opinion, cherry grower and processor organizations got together and provided funds to expand the report to a wider area of coverage.

With the financial hurdle cleared, the Federal-State Market News Service, at the beginning of the 1960 processing season, contacted processors throughout Wisconsin, New York, Pennsylvania, and Ohio—as well as in Michigan. To fit the enlarged area, the report was retitled the "Great Lakes Red Tart Cherry Report." It continued to show volume of raw cherries delivered to processors, and the packout by types and sizes — but for a 5-State area.

Every week throughout the cherry processing deal, this expanded report was assembled at the Federal-State Market News Service's Benton Harbor, Michigan, office, and then mailed from there every Thursday. As the report caught on, many marketers throughout the area paid pointed tribute to the new report's value to them. Reluctant to await its delivery by mail, they telephoned the Market News office themselves to get the information as soon as it was ready.

The cherry report is a typical example of how the Market News Service is using new methods and techniques to give growers and marketers good, quick marketing intelligence to help them make their marketing decisions.

The author is Chief, Market News Branch, Fruit and Vegetable Division, AMS.



Great Lakes Red Tart Cherry Report supplies information on volume delivered by growers and the amount packed, has further breakdown on canned cherries by size of the containers.

TRENDS AND PROSPECTS FOR

Breakfast Cereal Foods

by WILLIAM R. ASKEW

CEREALS shaped like stars, doughnuts, and snowflakes . . . cereals with cut-outs and games on the back . . . and sugar-coated cereals good for between meal snacks.

They're all available at your local store in an almost endless display.

Because of their taste and convenience, and because of heavy industry promotion, cold cereals have more than held up their end of grain consumption.

Breakfast cereals are one of the few cereal foods that have resisted a steady decline in consumption. And it's all because of the enticing new varieties now offered — and the few other foods with which cereals have to compete seriously at the breakfast table.

At lunch and dinner, families are eating more meat, poultry, and vegetables — and less bread and other cereal foods. Not so at the breakfast table. Mom is still dishing up hot cereal at a fast clip, and the kids are digging into heaping bowls of crisp dry cereals even faster.

Hot cereals, however, are not as much in demand as they were 20 years ago. It used to be that in the winter, the whole family arose to face a big bowl of piping hot oatmeal or wheat cereal.

Not any more. Cold cereals are now the big item, and they're popular the year around. In fact, by 1958 they accounted for nearly two-thirds of all breakfast cereals. In 1939, consumption was divided almost equally between cold and hot cereals.

For the two together — hot and cold cereals — total consumption has grown noticeably over the years. But the per capita figures have remained unchanged because the increase has about kept pace with the rise in our population.

Today, the average American eats his way through 9½ pounds of breakfast cereals a year. In 1939, he was consuming 9.7 pounds.

Most of the cereals are made from oats. Some come from wheat; some from corn; and some from rice.

Oat cereals are usually served hot — oatmeal and rolled oats. And hot oats have continued in popularity despite competition of new cold oat cereals. In the years between 1947 and 1958, to-be-cooked oat cereals rose in total consumption from 415 million to 455 million pounds.

Hot oats account for almost 75 percent of the per person consumption of all hot cereals.

But it's the corn cereals that have really captured the public's favor. Almost always in dry form, corn cereals have more than kept their consumption figures ahead of population increases. In the past decade (1947 through 1958—the latest period with data available), total consumption rose 113 million pounds —from 195 to 308 million. This averages an extra half-pound per person since 1947.

Also reflecting the shift from hot to cold cereals are those cereals made from wheat. While consumption of cooked wheat cereals dropped 24 million pounds (from 1939 to 1958), ready-to-serve cereals boosted their total by 45 million. So, in the end, wheat cereals showed an increase of 21 million pounds in the past two decades.

This increase, however, was not enough to offset the population increase. Per capita consumption of wheat cereals dropped 0.8 pounds.

But prospects are good for breakfast cereals as a whole. Unlike some food items, cereals continue to maintain or even slightly increase in per capita consumption as incomes rise.

Also, the current emphasis on low-calorie foods has not affected cereal consumption. Even for calorie-counters, it's a good idea to start the day with an adequate breakfast.

USDA nutritionists say that "most people should have one-fourth to one-third of their day's food at breakfast and should include a good source of protein."

Cereals provide this protein — plus iron and other minerals, vitamins, and food energy.

The author is a staff member of the Agricultural Economics Division of AMS.

Technicians will make counts, measurements in 180 cotton fields.

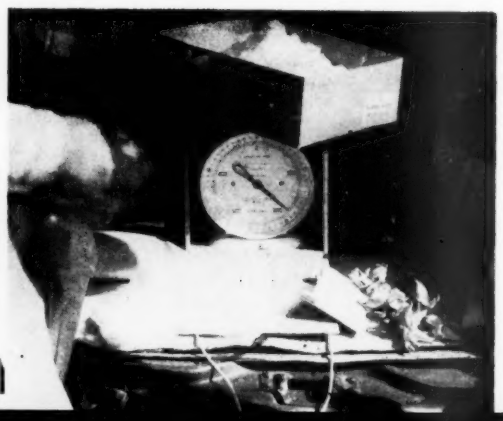
Gages used to measure size of bolls.

new methods of collecting

AGRICULTURAL STATISTICS

by STERLING R. NEWELL

Cotton bolls, blooms, and squares on four of the stalks in each sample plot will be individually counted.



At season's end, cotton in sample plots will be picked and weighed so Crop Reporting Service can estimate the yield.

ONE OF THE OLDEST services of the U. S. Department of Agriculture—the Crop Reporting Service of AMS—is employing some of the newest methods of collecting agricultural statistics.

Always alert to changing conditions, the Federal-State Crop Reporting Service has supplemented its years-old farmer reporting system with an on-the-spot survey of sample plots.

The new measurement methods, developed through AMS research, will be used for the first time this spring. Trained technicians will go into the field to interview farmers and take an actual look at the crops. They will then follow the crops from planting to harvest.

Work will begin late this month in 12 Southern, 12 Corn Belt, and 4 Western States. Here, technicians will conduct a survey that will give sample estimates of crop acreage, livestock and farm numbers, and some economic data such as wages. They will collect this information from 13,500 farmers located in over 6,700 different areas selected at random.

Following the June survey, the Crop Reporting Service technicians will gather information for estimating yields of cotton and corn. Again working on a sample basis, they'll make counts and measurements in about 180 cotton fields in each of 10 Southern States and some 160 corn fields in each of 15 States.

So far, only corn and cotton will come in for this "extra" service. But as soon as reliable technical methods are developed for measuring other crops — soybeans, wheat, and sorghum, for example — they, too, will come under the new program.

In the cotton fields, the technicians will use mechanical counters to count the bolls, blooms, and squares, and boll gages to measure the size of the cotton bolls.

Every boll on every stalk of cotton

(continued on page 16)

AMS researchers use

TASTE TEST PANEL

to rate quality of food products

INSTRUMENTS can measure everything from the tenderness of roast beef to the exact color of a ripe tomato. And chemical analysis can tell such things as the sweetness and acidity of the food we eat.

But what good are these measurements if they do not agree with our own taste buds? Very little, of course, because people eat — and buy — what they like to eat.

This means that new measurements of quality developed by food scientists and engineers must be checked by the human palate.

This checking is no easy job. Often one's opinions of food have little to do with its actual taste. Opinions may be influenced by the appearance of the food, other people's chance remarks or expressions, noises and other distractions.

To take these extraneous factors out of the evaluation of foods, AMS scientists use a taste panel. Specially constructed booths enable taste testers to judge the samples in private without distraction and under controlled lighting.

Candidates for the panel are screened before they are selected, because everyone does not have an equally well-developed sense of taste. For example, if candidates are needed for a taste test to learn whether a particular type of fruit juice has a stronger sour flavor than another, candidates are tested on a product that has a small amount of fruit acid added. If they can consistently pick the treated sample from other samples, they qualify for this particular panel.

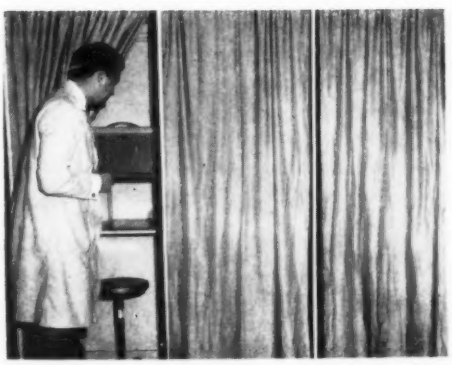
When time for the actual test comes, the panel members go into individual booths. A food technologist passes in a tray containing the samples in small cups. A card is included for the tester to record his impressions.

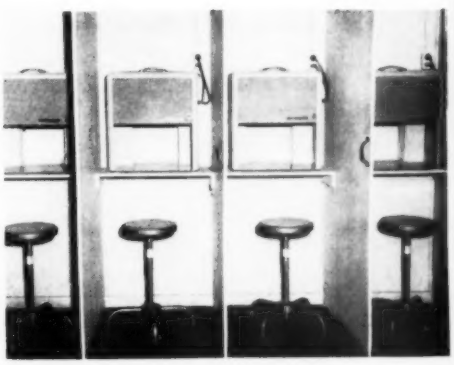
If the test is made for flavor alone, the technologist snaps a switch supplying a low level of light in the test booth. This light is bright enough for the tester to see to eat and to mark the scorecard, but not bright enough for him to distinguish the color or fine features of appearance of the samples.

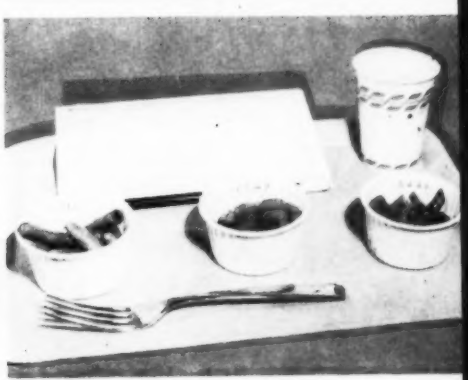
On the other hand, if appearance is part of the test, the food technologist provides full light in the booth.

The testers use various kinds of scoring cards to rate food products for a number of qualities.

Over the past few years, the test panel has been used to evaluate the color and flavor of tomato juice, strawberries, peaches, peanut butter, sweet potatoes and apple juice, and the tenderness of green beans and sweet corn. Extensive tests have also been made on the sweetness of apples of different maturities.







To eliminate outside influences, taste testers sample food in individual booths. Food technologist passes three samples, together with rating card, through opening in wall.

THE CHANGING MARKET

LETTUCE

In 1947 only a few lots of dry-packed lettuce were vacuum cooled — and these in a single plant on an experimental basis. In 1961 about 80,000 carloads will pass through vacuum coolers in plants all over the country.

AMS research has helped to make this success story. And, it is still contributing new information for better vacuum cooling methods.

Recent experiments now pinpoint several conditions for improving the vacuum cooling of lettuce. These, AMS horticulturist William R. Barger says, include --

- The temperature of the lettuce when it comes from the field,
- The speed with which the air is removed from the tank,
- The temperature at which the vapor condenser is operated,
- The amount of free moisture on the lettuce, and
- The packing materials used.

To be more specific:

Lettuce loses about 1 percent of its moisture for each 10-degree drop in temperature during vacuum cooling. Consequently, the warmer the head is before it goes into the tank, the more moisture it loses.

Ordinarily, it takes 25 to 30 minutes to vacuum cool field-packed lettuce to a temperature of 40° F. An additional 10 minutes may be required to drop the temperature to 32° or 33° — ideal for loading into rail cars. Faster evacuation at the start of the vacuum cycle and automatic control of the condenser temperature at about 29° will shorten the cooling time without danger of freezing the lettuce.

Wetting the lettuce before it goes into a vacuum does not affect the rate of cooling. It does, however, reduce the amount of moisture drawn from the leaves and prevents wilting of warm lettuce.

Finally, the cooling of lettuce by vacuum depends upon the amount of moisture evaporated from the leaves. So, be sure the containers and wrappers used for packaging are ventilated with enough holes to allow moisture to escape freely.

If shippers keep these main points in mind while vacuum-cooling lettuce, AMS scientists say they'll be able to move a better product to market.★

This year, nearly 80,000 carloads of lettuce are expected to pass through vacuum coolers.

EXHIBIT

An electronic meat grades exhibit now "touring" the United States is helping consumers learn more about Federal grades for beef.

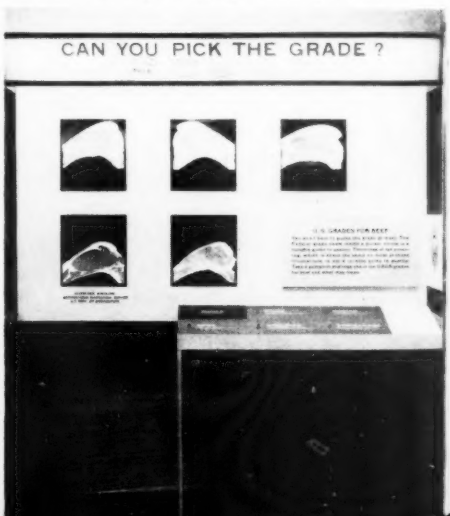
Sponsored by USDA's Agricultural Marketing Service, the exhibit is attracting enthusiastic attention from thousands of visitors at expositions, stock shows, conventions, and other events where it is shown. At these shows, the visitor gets a chance to "grade" beef. Here's how it is done.

After studying five colored "transparencies" of beef cuts, the visitor decides how each cut would grade. He pushes the button of the grade which corresponds to his selection—Prime, Choice, Good, Standard, or Commercial. A light flashes on immediately, indicating whether the decision was correct or not.

The exhibit gives added emphasis to the fact that a consumer does not have to be an expert meat grader to buy meat wisely. A small purple shield stamped on each cut specifies the grade and is a reliable guide to quality.

From May 18 through the 25th the exhibit will be on display at Fort Lee, Virginia, for the Armed Forces Day Activities of the U. S. Army Quartermaster School. It already has been shown at the Chicago Inter-

Touring exhibit gives consumers chance to test their ability to judge meat grades.

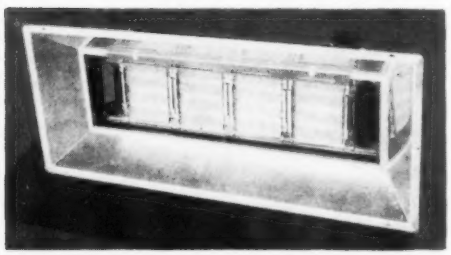


- Vacuum Cooling Lettuce
- USDA's Meat Grades Exhibit
- Infra-Red Radiation of Rice
- Cattle Numbers Up, Hogs and Sheep Down
- Lights Trap Cigarette Beetles

national Livestock Exposition; the Southwestern Exposition and Fat Stock Show at Fort Worth, Texas; the San Antonio Livestock Show; and, the annual convention of the National Independent Meat Packers Association at Chicago.

Visitors to these shows were also given copies of Marketing Bulletin No. 15, "U. S. Grades for Beef," which has additional information on how grades can be used as an aid in buying and cooking beef. A copy of this bulletin can be obtained from the Office of Information, USDA.★

Gas fired infra-red heater dries rough rice economically and kills insects at same time.



RADIATION

Scientists know that infra-red radiation kills insects in rice. However, the common way of producing it—by heat lamp—is too expensive for treating rice commercially.

A small-scale laboratory test conducted by AMS marketing researchers at Houston and College Station, Texas, suggests that a new type of heater may dry the rough rice economically and kill the insects at the same time.

The new heater has the impressive title of a "ceramic panel gas-fired infra-red heater." Actually, it's a ceramic panel with gas jets behind it.

If the rice is heated to about 140° F. by the new heater, rice weevils and lesser grain borers are completely eliminated. The infra-red radiation kills the insects in every stage of development, even those inside the kernels, and does not affect the milling quality of the rough rice.

The tests suggest that a quick rise to the correct temperature may be more effective than raising the temperature slowly.

However, the scientists caution, more tests will have to be made before the new heater is recommended for general use. ★

LIVESTOCK

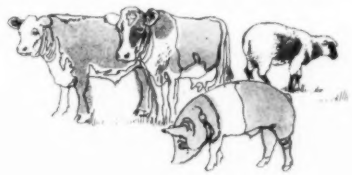
There were more cattle but fewer hogs and sheep on the Nation's farms on January 1 than a year earlier, according to the annual livestock and poultry inventory of USDA's Crop Reporting Board.

This year, cattle and calves numbered over 97 million head — 1 percent more than a year earlier and 7 percent above the 1950-59 average.

This is the third straight year that cattle numbers have increased.

Here are some of the livestock and poultry statistics reported on January 1, 1961:

- Milk cows and heifers (2 years old and older) — 19.3 million, down 1 percent from a year earlier and 15 percent below average.
- Heifers and heifer calves under 2 years old (kept for milk) — 10.6 million, the same as last year but 8 percent below average.
- Other cattle (mostly beef type) — 67.2 million, up 2 percent from January 1, 1960, and 19 percent more than average.
- Hogs—55.3 million, 6 percent fewer than a year earlier but 1 percent above average.
- Sheep—32.9 million, a decline of 1 percent from January 1, 1960, but 5 percent above average.
- Chickens (excluding commercial broilers)—357.9 million, 3 percent fewer than a year earlier and 11 percent below average.
- Turkeys (excluding turkey-fryers) — 6.8 million, an increase of 21 percent from a year earlier and 28 percent above average.



Farmers reported they intend to produce more spring pigs and poultry this year than last. And, the calf and lamb crops probably will be about the same as a year ago, if not slightly bigger.

According to AMS economists, most of the changes for cattle and swine will not be large and prices will probably average close to last year's. But for poultry, production and numbers will be up and prices are likely to be below a year ago. ★

CIGARETTES

Just as most women can't pass a mirror without a glance, female cigarette beetles can't pass a light

(continued on page 16)

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THE CHANGING MARKET

(continued from page 15)

without stopping.

Scientists from the Agricultural Marketing Service recently checked the number and sex of cigarette beetles attracted to black and regular incandescent light traps.

The black light traps, they found, caught three times more beetles than the incandescent light traps. And, about two-thirds of the beetles in both traps were females.

These findings tell us that black light traps are a big improvement over the old stand-by — the incandescent light trap. Black light traps offer a more exact idea of trends in insect population. From a practical standpoint, this means that the traps can give a more exact cue on when to "zero-in" on invading insects.

* * *

Young Man from Greece

(continued from page 6)

that Hadjikos studied for nearly 7 months at the University of California at Davis. Here he attended agricultural marketing classes and did special research in apple storage. He had four refrigerated rooms where he experimented with Red Delicious apples, a big commodity in Greece.

Hadjikos checked the effects of various temperatures and humidities on the water loss, respiration, deterioration, and flavor of the apples. He wanted to find the best possible ways to keep this fruit in marketable condition throughout the winter. And he found them.

When Hadjikos returns to Greece with this information—and all the other facts and materials he has collected—he, along with other Greek specialists who have studied in the United States, will help solve some of the more pressing problems in the marketing of Greek fruits and vegetables. Although not all of the things he saw and learned can be applied directly to the situation in Greece, a good many may be modified and still put to good use.

This is the hope of the International Cooperation Administration, the agency which sponsored his trip.

* * *

Plentiful Foods for May

For that early spring picnic or cook-out try a broiler-fryer. They top the U.S. Department of Agriculture's Plentiful Food List this month. Also in good supply—and plenty tempting for indoor meals as well—are turkeys, potatoes, canned freestone peaches, cabbage, milk and dairy products.

* * *

Collecting Statistics

(continued from page 12)

in the sample plots will be counted and the squares and blooms on four stalks also will be individually counted. From these measurements, the statisticians can find the fruiting rate as well as the amount of cotton that will be produced.

At season's end, the cotton in the sample plots will be picked and weighed, and the Crop Reporting Service will be able to estimate the yield per acre. Final estimates will reflect only the cotton that actually goes to the gin. Allowances will be made for damage and harvest losses.

The job of forecasting corn production is less complicated. Again sample plots will be used — two in each field, each 2 rows wide and 15 feet long.

The technicians will keep an eye on these plots through monthly visits. As the ears develop, they will check their length, record the moisture content of the corn, and finally in October they will harvest and husk the sample corn and weigh it.

Information from the sample plots, along with data provided by crop reporters, is used to prepare the estimates which appear in monthly crop reports. These reports give an accurate picture of the overall cotton and corn situation. Such information is invaluable to everyone concerned with the production, marketing, and consumption of cotton and corn.

The author is Chairman of the Crop Reporting Board, Agricultural Marketing Service.

Growth Through Agricultural Progress